

What is claimed is:

1. An integrated speech synthesizer with an automatic identification of speaker connections comprising:

5 a sound encode register for storing encoded digitized sound data;

10 a first speech synthesis unit connected to said sound encode register for converting said digitized sound data from said sound encode register to a first analog signal and sending out said first analog signal through a first output terminal;

15 a second speech synthesis unit connected to said sound encode register for converting said digitized sound data from said sound encode register to a second analog signal and sending out said second analog signal through a second output terminal and said first output terminal; and

20 a state register connected to said first output terminal for storing a state of said first output terminal before said speech synthesizer is enabled;

wherein said speech synthesizer is automatically set up with an initial value in reference to said state stored in said state register.

25 2. An integrated speech synthesizer according to claim 1

wherein said first speech synthesis unit is a PCM speech synthesis unit.

3. An integrated speech synthesizer according to claim 2
5 wherein said first output terminal is in a high impedance state before connected to a speaker.

4. An integrated speech synthesizer according to claim 3
10 wherein said first output terminal is in a low level and said first speech synthesis unit can be enabled when a drive circuit for said speaker is connected to said first output terminal only.

5. An integrated speech synthesizer according to claim 1
15 wherein said second speech synthesis unit is a direct drive type speech synthesis unit.

6. An integrated speech synthesizer according to claim 5
20 wherein said second speech synthesis unit is a push-pull type speech synthesis unit.

7. An integrated speech synthesizer according to claim 6
wherein said second speech synthesis unit is a PWM speech synthesis unit.

8. An integrated speech synthesizer according to claim 7
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wherein said second output terminal is in a high level before said speech synthesizer is enabled.

9. An integrated speech synthesizer according to claim 8 wherein said first output terminal is in a high level and said second speech synthesis unit can be enabled when said speaker is connected to said first and second output terminals.

10. A method for automatic identification of speaker connections to an integrated speech synthesizer with a PCM and direct drive type speech synthesis units, said PCM speech synthesis unit enable to send out a first analog signal from a first output terminal, said direct drive type speech synthesis unit enable to send out a second analog signal from a second output terminal and said first output terminal, said method comprising:

sending out a preset voltage from said second output terminal;

storing a state of said first output terminal with a state register before said speech synthesizer is enabled; and

setting up said speech synthesizer with an initial value in reference to said state stored in said state register.

11. A method according to claim 10 wherein said preset voltage is high.

12. A method according to claim 10 wherein said first output terminal is in a low level and said first speech synthesis unit can be enabled when a drive circuit for said speaker is connected to said first output terminal only.

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13. A method according to claim 10 wherein said first output terminal is in a high level and said direct drive type speech synthesis unit can be enabled when said speaker is connected to said first and second output terminals.

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